

EXHIBIT 3

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

CHASOM BROWN,
Plaintiff, Case No.
vs. 4:20-cv-03664-YGR-SVK
GOOGLE LLC,
Defendant.

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ZOOM VIDEOTAPED DEPOSITION OF
JONATHAN E. HOCHMAN

July 20, 2022

10:15 a.m.

TAKEN BY:

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1 Q. In what capacity? 11:01:15	1 top of the list. 11:03:43
2 A. As an expert. 11:01:16	2 So if you go down to the bottom 11:03:44
3 Q. In what cases? 11:01:17	3 of the list, you'll see a case from 11:03:45
4 A. I was retained by Susman Godfrey 11:01:21	4 approximately 2014. I think it's the 11:03:49
5 in two other matters that I recall. 11:01:24	5 first time I testified, and then for a 11:03:53
6 Q. And that was in connection to 11:01:31	6 number of years before that, I had been a 11:03:58
7 Ian Crosby you mentioned earlier; is that 11:01:35	7 consulting expert. I just hadn't been 11:04:00
8 correct? 11:01:39	8 deposed up to that point. 11:04:03
9 A. Yes. 11:01:39	9 Q. And so -- 11:04:07
10 Q. And how much were you paid for 11:01:39	10 A. If I may. 11:04:10
11 those engagements? 11:01:41	11 (Reporter clarification.) 11:04:10
12 A. I don't remember. 11:01:42	12 A. Yeah, I'm sorry. If I may. Why 11:04:11
13 Q. Can you provide us with an 11:01:42	13 don't you introduce my CV and we'll just 11:04:13
14 estimate? 11:01:46	14 take a look at that? Because I don't want 11:04:15
15 A. I don't think I can provide a 11:01:52	15 to give you inaccurate information, so it 11:04:17
16 good estimate on that, but it's -- let me 11:01:53	16 will be good for me just to look at it 11:04:19
17 think about it a little bit. You know, I 11:01:58	17 just to make sure I'm remembering it 11:04:22
18 think that my -- my sense of both of these 11:02:01	18 correctly. 11:04:24
19 two cases is that they were both under -- 11:02:03	19 BY MR. ANSORGE: 11:04:24
20 probably under \$100,000 each. 11:02:06	20 Q. Yeah. We'll -- we'll turn to 11:04:24
21 Q. Mr. Hochman, in an average year, 11:02:12	21 that right away as well. 11:04:27
22 what percentage of your work is as a 11:02:14	22 Prior to this engagement, 11:04:30
23 consulting or testifying expert? 11:02:17	23 Mr. Hochman, have you ever proffered 11:04:32
24 A. Okay. So there's several ways 11:02:21	24 expert opinions on informational entropy? 11:04:34
25 to look at it, and one way to look at it 11:02:23	25 MR. MAO: Objection, vague and 11:04:41
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1 is by how I spend my time. So I -- I 11:02:26	1 ambiguous. Go ahead. 11:04:42
2 typically spend about one-third of my time 11:02:29	2 A. I'm not sure because entropy is 11:04:45
3 as a expert. I spend another third of my 11:02:31	3 just a fancy way of saying the quantity of 11:04:49
4 time in start-up development and/or 11:02:37	4 information. 11:04:52
5 academic-type work in recent years. And 11:02:42	5 BY MR. ANSORGE: 11:04:52
6 then I also spend about a third of my time 11:02:46	6 Q. And did you provide any expert 11:04:57
7 assisting my wife in -- in her business 11:02:50	7 opinions on the quantity of information? 11:04:59
8 endeavors. 11:02:53	8 A. I mean, entropy is sort of a -- 11:05:03
9 Q. And what are her business 11:02:54	9 is a concept in computer science that kind 11:05:08
10 endeavors? 11:02:57	10 of spans across a bunch of different 11:05:11
11 A. She's a real estate developer. 11:02:58	11 things. So I don't know that -- I just 11:05:13
12 Q. So one-third as an expert in 11:03:03	12 don't want to slice this too finely and 11:05:22
13 formulative {audio glitch} litigation, 11:03:09	13 exclude something. 11:05:26
14 one-third academic or start-up, and 11:03:10	14 So I -- the answer is I'm not 11:05:26
15 one-third working in real estate; is that 11:03:13	15 sure whether I've provided that kind of 11:05:29
16 correct? 11:03:15	16 opinion or not because it becomes a 11:05:30
17 A. That's sort of a rough 11:03:15	17 boundary question, you know. You might 11:05:32
18 breakdown, just roughly, yes. 11:03:17	18 consider some other opinion I've given to 11:05:34
19 Q. When was the first time you 11:03:19	19 be relevant and I might not, so I don't 11:05:37
20 acted as a testifying expert? 11:03:23	20 want to confuse you by -- maybe it will be 11:05:39
21 A. Okay. So, again, there's 11:03:28	21 more helpful if you ask the question in a 11:05:44
22 several ways to look at that, but if you 11:03:30	22 slightly different way. 11:05:46
23 look at my CV, you will see the list of my 11:03:32	23 Q. Have you proffered any expert 11:05:50
24 depositions in reverse chronological 11:03:35	24 opinions about information theory? 11:05:53
25 order, meaning that the newest is at the 11:03:40	25 MR. MAO: Objection, vague and 11:05:57
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1	ambiguous. Objection to the form of	11:05:59	1	A. I'm going to -- I think I have a	11:08:12
2	the question.	11:06:01	2	copy of the CV locally, so I'm going to	11:08:14
3	Please, Mr. Hochman, go ahead.	11:06:03	3	open that locally.	11:08:17
4	A. Yeah, so information theory	11:06:06	4	BY MR. ANSORGE:	11:08:21
5	comes about in the context of -- of a	11:06:08	5	Q. That's fine.	11:08:21
6	variety of areas in computer science. So	11:06:11	6	MR. MAO: Dr. Hochman, if you're	11:08:30
7	I've offered, you know, a fairly large set	11:06:14	7	going to do that, can you just make	11:08:32
8	of opinions just because I've worked on	11:06:19	8	sure that the exhibits match?	11:08:34
9	hundreds of cases.	11:06:23	9	THE WITNESS: Yeah, let me take	11:08:38
10	So I'm thinking about expert	11:06:25	10	a look at what you've got in Exhibit	11:08:41
11	reports I've written, times when I've	11:06:26	11	Share because that will help me.	11:08:44
12	said, you know, there are a lot of	11:06:31	12	A. So this is Exhibit A. So I will	11:08:48
13	possibilities here; there are a few	11:06:33	13	open a local copy of Exhibit A. All	11:08:50
14	possibilities.	11:06:34	14	right. I've got that open.	11:08:58
15	So if you get into a discussion	11:06:35	15	BY MR. ANSORGE:	11:08:58
16	of probability and counting, then that's a	11:06:38	16	Q. Right. And you recognize that	11:09:01
17	discussion of entropy because entropy is	11:06:41	17	as your CV that you provided with your	11:09:03
18	just the sum of the different ways of a	11:06:44	18	opening report?	11:09:06
19	system being arranged that -- where the	11:06:49	19	A. Yes.	11:09:08
20	sum of each element -- the sum where	11:06:51	20	Q. And is this your current and	11:09:10
21	the -- the components are each multiplied	11:06:53	21	accurate list of credentials?	11:09:12
22	by the probability of that arrangement	11:06:56	22	A. I think there have been some	11:09:15
23	being the one.	11:06:59	23	updates since this, but -- since this was	11:09:16
24	So it's -- it's sort of a	11:07:01	24	provided.	11:09:21
25	concept that becomes intertwined in a lot	11:07:04	25	Q. And what are the updates?	11:09:23
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1	of different issues.	11:07:09	1	A. Let me take a look here. I	11:09:26
2	BY MR. ANSORGE:	11:07:10	2	think there's been one additional	11:09:43
3	Q. Prior to this engagement,	11:07:11	3	deposition. I think there's been one	11:09:45
4	Mr. Hochman, have you proffered any expert	11:07:12	4	additional trial.	11:09:49
5	opinions about online privacy?	11:07:14	5	Q. What is the additional	11:09:54
6	MR. MAO: Objection, vague and	11:07:19	6	deposition?	11:09:56
7	ambiguous, form of the question.	11:07:20	7	A. The additional deposition -- and	11:09:58
8	Please go ahead.	11:07:22	8	I'm sorry, there might be other changes	11:10:01
9	A. I think I have.	11:07:24	9	too. Those are just the first two things	11:10:02
10	BY MR. ANSORGE:	11:07:24	10	I notice.	11:10:05
11	Q. Can you describe those for us?	11:07:27	11	The additional deposition is a	11:10:06
12	A. I think we should look at my CV	11:07:30	12	case called Black v CNN.	11:10:07
13	if I'm going to do that because I don't	11:07:32	13	Q. In general terms, what opinion	11:10:12
14	want to give you an incomplete list and --	11:07:34	14	did you proffer in that case?	11:10:23
15	Q. Yep.	11:07:37	15	A. That was a case about online	11:10:26
16	A. -- the list of cases would be	11:07:38	16	reputation, and my opinions related to	11:10:29
17	helpful to make sure I give you a thorough	11:07:40	17	the -- the number of people who viewed	11:10:33
18	answer.	11:07:42	18	allegedly defamatory content, whether that	11:10:38
19	Q. Yeah, let's -- let's do that.	11:07:43	19	number views was significant and some	11:10:43
20	So as Exhibit 2, I'd like to enter the CV	11:07:47	20	further related opinions.	11:10:48
21	that you provided with your opening	11:07:51	21	Q. And you also stated that there's	11:10:50
22	report. Let me know when you have that.	11:07:53	22	a trial that's missing from this CV. What	11:10:51
23	(Exhibit 2, Jonathan Hochman's	11:07:54	23	was that trial?	11:10:54
24	Curriculum Vitae, marked for	11:07:54	24	A. So this was a arbitration	11:10:56
25	identification.)	11:07:54	25	evidentiary hearing. I guess it's the	11:10:59
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1 in the beginning, but could you agree to 11:16:47	1 to be sure that I include anything because 11:33:22
2 have your phone off while we're doing the 11:16:50	2 I don't want to skip something. 11:33:24
3 questioning and then during the breaks -- 11:16:53	3 So if you look at Trial 11:33:26
4 A. I can't do that -- I can't do 11:16:55	4 Testimony Number 5, Borg v Cloutier, that 11:33:27
5 that because my father is deathly ill, and 11:16:59	5 was a State Court case, a dispute between 11:33:32
6 I'm one of the primary caregivers so I'm 11:17:01	6 neighbors that involved things such as one 11:33:36
7 just potentially on call to help him, so 11:17:03	7 neighbor videotaping the other neighbor's 11:33:39
8 I'm monitoring for that. And I'm not 11:17:06	8 backyard and children playing, and it also 11:33:42
9 taking calls or information from anyone 11:17:08	9 involved an accusation of one neighbor 11:33:46
10 connected to this case. 11:17:11	10 publishing defamatory information or 11:33:51
11 MR. MAO: Mr. Hochman -- 11:17:14	11 private information or, you know, 11:33:54
12 MR. ANSORGE: Mark, do you want 11:17:15	12 intruding upon seclusion. There were a 11:33:55
13 a five-minute break? 11:17:19	13 whole passel of claims there, so I'll just 11:33:59
14 (Reporter clarification.) 11:17:20	14 alert you to that case. 11:34:04
15 MR. MAO: I can assure you that 11:17:20	15 Q. Okay. So apart from the line 15 11:34:06
16 we're not texting him. Yeah. 11:17:22	16 and line 3 and -- that we were discussing 11:34:09
17 MR. ANSORGE: With that 11:17:22	17 earlier, there's also line 5. 11:34:15
18 assurance, let's take a break. 11:17:22	18 Can you identify any others 11:34:18
19 MR. MAO: Yeah. I appreciate 11:17:25	19 apart from those three? 11:34:19
20 the break. I can kiss my kids on 11:17:34	20 A. Let me take a look. Nothing 11:34:21
21 their way out and a cup of coffee. 11:17:37	21 else springs to mind, and so those are the 11:34:51
22 MR. ANSORGE: Let's take a 11:17:39	22 ones that I can identify as I sit here. 11:35:00
23 ten-minute break off the record. Does 11:17:40	23 Q. Prior to the break, we were also 11:35:02
24 that work? 11:17:42	24 discussing your experience providing 11:35:05
25 MR. MAO: Thanks so much. 11:17:45	25 opinions regarding informational entropy. 11:35:09
Page 62	Page 64
1 MR. ANSORGE: Or let's make 11:17:46	1 Do you recall that? 11:35:12
2 it -- in 13 minutes, let's do it at 11:17:47	2 A. Yes. 11:35:13
3 the bottom exactly on the half of the 11:17:49	3 Q. And I believe you'd stated then 11:35:13
4 hour, we'll start again. 11:17:50	4 that it would be easier having the CV 11:35:17
5 THE VIDEOGRAPHER: Going off the 11:17:52	5 before you to identify whether -- or what 11:35:18
6 record. The time is 11:18 a.m. 11:17:53	6 cases you had provided any testimony 11:35:21
7 (Whereupon, a brief recess is 11:18:07	7 regarding informational entropy; is that 11:35:23
8 taken.) 11:32:22	8 correct? 11:35:30
9 THE VIDEOGRAPHER: Back on the 11:32:22	9 A. Sure. I'll take a look. I 11:35:31
10 record. The time is 11:32 a.m. 11:32:35	10 mean, I would say the concept of entropy 11:35:33
11 BY MR. ANSORGE: 11:32:37	11 or information content is sort of part and 11:35:35
12 Q. Welcome back, Mr. Hochman. 11:32:39	12 parcel of a bunch of different things. 11:35:38
13 Prior to the break, we were looking at 11:32:41	13 You know, it's an aspect of cartography 11:35:40
14 Exhibit 2, your CV that you provided with 11:32:42	14 and computer security as well. 11:35:45
15 your opening report, and we were 11:32:47	15 So, you know, it may at some 11:35:47
16 discussing cases in which you provided 11:32:50	16 level be involved in some things, but 11:35:51
17 some type of testimony regarding online 11:32:53	17 it's -- I'll take a look through here and 11:35:54
18 privacy. 11:32:56	18 see if there's anything in particular 11:35:56
19 Apart from line 15 and line 3, 11:33:00	19 where I would say it's, you know -- stands 11:35:57
20 have you thought of any other cases where 11:33:03	20 out or jumps out. I'll let you know. Let 11:36:00
21 you provided testimony regarding online 11:33:05	21 me just have a quick look through the 11:36:03
22 privacy? 11:33:08	22 list. 11:36:05
23 A. Yes. Although -- well, there's 11:33:11	23 Q. Please do. 11:36:05
24 a case -- another case that related to 11:33:17	24 A. Yeah, I don't see anything on 11:36:51
25 privacy. So I'm going to -- I just want 11:33:19	25 this list that jumps out at me. So, you 11:36:52
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1 know, it might be baked into some issue in 11:36:54	1 that was a -- an invited paper, and then 11:39:13
2 some of these cases, but I'm not recalling 11:37:01	2 it was reviewed by the conference 11:39:16
3 it specifically now. 11:37:03	3 committee or people, and it was accepted. 11:39:21
4 Q. Do you have any peer-reviewed 11:37:03	4 And then it was published in Springer's 11:39:26
5 publications on information entropy? 11:37:05	5 Lecture Notes in Computer Science. 11:39:31
6 MR. MAO: Objection to the form 11:37:08	6 Q. If you turn to the first page of 11:39:33
7 of the question, vague and ambiguous. 11:37:09	7 your CV, which is Exhibit 2, it states 11:39:36
8 Go ahead. 11:37:11	8 there, as a past position, 2008 to 2019, 11:39:39
9 A. So I would -- you're aware of 11:37:14	9 SEMNE, the Search Engine Marketing New 11:39:43
10 the article I published last year related 11:37:16	10 England, chair and founding member. 11:39:48
11 to identifying records in medical 11:37:18	11 Do you see that? 11:39:50
12 databases? 11:37:23	12 A. Yes. 11:39:50
13 BY MR. ANSORGE: 11:37:25	13 Q. How do I -- is that pronounced 11:39:52
14 Q. Yes. 11:37:25	14 as SEMNE, S-E-M-N-E? How would you refer 11:39:55
15 A. So that issue is -- is sort of 11:37:26	15 to it? 11:39:58
16 intertwined with entropy because there's a 11:37:29	16 A. Yes, that's fine. 11:39:59
17 very big problem in medical databases, a 11:37:35	17 Q. What is SEMNE? 11:39:59
18 problem of reidentification of the 11:37:37	18 A. It was an association of search 11:40:03
19 records. 11:37:39	19 engine marketers that existed up until the 11:40:07
20 So for example, when a 11:37:39	20 pandemic. It was conducting in-person 11:40:12
21 researcher goes to National Cancer 11:37:40	21 events and because of the pandemic, it 11:40:15
22 Database and wants to do a study and 11:37:44	22 wasn't feasible to continue doing that so 11:40:18
23 requisitions a bunch of anonymous records, 11:37:46	23 it went dormant. 11:40:21
24 the idea is they don't want the researcher 11:37:49	24 And then subsequently, I and my 11:40:22
25 to be able to reidentify the patients. 11:37:53	25 partner sold it to another search marketer 11:40:26
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1 And the challenge is that if you 11:37:57	1 who I'm not sure what he's -- his plans 11:40:29
2 provide the researcher with a large enough 11:37:58	2 are for it right now, but it's -- it's no 11:40:33
3 number of data fields, the entropy in 11:38:01	3 longer ours. 11:40:35
4 those data fields combines to make it 11:38:05	4 Q. What is search engine marketing? 11:40:36
5 feasible to reidentify the patient. 11:38:09	5 MR. MAO: Objection, vague and 11:40:41
6 So as a policy, the medical 11:38:11	6 ambiguous. Go ahead. 11:40:42
7 databases are required to restrict the 11:38:15	7 A. So there's -- there are a couple 11:40:45
8 number of data fields to essentially limit 11:38:18	8 of ways to look at it. One definition of 11:40:46
9 the amount of entropy that's released to a 11:38:22	9 search engine marketing that is narrower 11:40:49
10 researcher, the amount of entropy in any 11:38:27	10 that it's the practice of placing paid 11:40:51
11 given record, so that the patients will 11:38:30	11 advertisements on search engine listings. 11:40:55
12 remain anonymous. And so that's an issue 11:38:33	12 So, you know, these (search ads are search 11:40:58
13 that is related to that paper. 11:38:37	13 engine market. 11:41:05
14 I would have to look at the 11:38:39	14 A slightly broader view of it 11:41:06
15 paper. If you want to introduce it, I can 11:38:40	15 would also include activities called 11:41:08
16 take a look and see if -- to what extent 11:38:43	16 "search engine optimization," that would 11:41:11
17 we covered that issue in the paper. 11:38:44	17 involve increasing the prevalence or 11:41:14
18 Q. And was that a peer-reviewed 11:38:46	18 quality of listings in the natural search 11:41:18
19 paper? 11:38:48	19 results. 11:41:21
20 A. That was a -- a peer-reviewed 11:38:49	20 So at various points in time, 11:41:22
21 paper. It was submitted for an 11:38:51	21 that definition has sort of evolved. So 11:41:23
22 international conference called -- let's 11:38:54	22 at one point in time, it included both SEO 11:41:26
23 see, the 23rd International Symposium on 11:39:01	23 and SEM, or SEO and PPC. And more 11:41:29
24 Stabilization, Safety and Security of 11:39:08	24 recently, I think it's limited to just, 11:41:34
25 Distributed Systems, in November 2021. So 11:39:10	25 you know, PPC. 11:41:36
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1 which information was available. 12:06:34	1 reasonable inference could be drawn that 12:09:22
2 BY MR. ANSORGE: 12:06:38	2 Google would use fingerprinting. 12:09:25
3 Q. In which of your opinions do you 12:06:43	3 BY MR. ANSORGE: 12:09:27
4 state that Google uses fingerprinting 12:06:44	4 Q. And do you draw that reasonable 12:09:27
5 techniques to build profiles? 12:06:48	5 inference anywhere in your report? 12:09:29
6 MR. MAO: Objection, the 12:06:51	6 A. I think there are a few examples 12:09:33
7 document speaks for itself. 12:06:51	7 in the report that -- that suggest this. 12:09:34
8 A. I can look through the document 12:06:57	8 I've talked about some of the systems that 12:09:38
9 here. I just -- we should be cognizant 12:06:59	9 Google has for correlating different 12:09:42
10 it's 155 pages, and it may take me a bit 12:07:01	10 identifiers. I think one of them is 12:09:46
11 of time to look through it and point out 12:07:04	11 called [REDACTED]. And I think there's another 12:09:49
12 some things. If you want me to take the 12:07:06	12 system in there called [REDACTED]. 12:09:54
13 time and do that, I will. 12:07:08	13 So there are a number of systems 12:09:57
14 Or if you would prefer, if you 12:07:09	14 that are discussed in the report that -- 12:09:59
15 know where those sections are already, you 12:07:11	15 where Google hasn't given me a transparent 12:10:03
16 might just want to go to them and ask me 12:07:14	16 disclosure of what all these things are 12:10:07
17 about them for economy of time. I'll 12:07:16	17 doing in total, but there's indications or 12:10:10
18 leave that to you to choose which way you 12:07:17	18 at least circumstantial indications of 12:10:14
19 want me to do it. 12:07:20	19 fingerprinting. 12:10:17
20 BY MR. ANSORGE: 12:07:23	20 And another one that comes to 12:10:18
21 Q. Let's turn to paragraph 223, the 12:07:24	21 mind is that I'm aware that Google has 12:10:19
22 last sentence. 12:07:28	22 security, as all web services of the scope 12:10:23
23 A. Just a moment. I'm going to 12:07:34	23 and scale of Google must have. And an 12:10:27
24 read that and also some of the surrounding 12:07:37	24 important method in security is -- is 12:10:32
25 content. 12:07:39	25 fingerprinting. It's used to fend off 12:10:39
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1 Q. Sure. 12:07:40	1 attacks. So it's likely that there is 12:10:44
2 A. Okay. Go ahead. I've looked 12:08:29	2 fingerprinting going on. 12:10:47
3 through this. 12:08:31	3 Q. And holding aside fingerprinting 12:10:50
4 Q. Do you see in the last sentence 12:08:32	4 to prevent abuse for security purposes 12:10:53
5 where it says "Regardless of whether or 12:08:33	5 which you were just referencing, earlier 12:10:57
6 not Google actively 'fingerprints' its 12:08:35	6 you said that there's two different 12:11:00
7 users, the voluminous amount of 12:08:38	7 systems, [REDACTED] and [REDACTED]. 12:11:02
8 fingerprinting data it collects and stores 12:08:40	8 Is it your opinion that Google 12:11:06
9 - including from private browsing - 12:08:42	9 uses [REDACTED] to fingerprint plaintiffs in this 12:11:08
10 certainly allows data to be tied to 12:08:44	10 action? 12:11:16
11 individual users." 12:08:47	11 MR. MAO: Objection, vague and 12:11:18
12 Did I read that out loud 12:08:48	12 ambiguous, asked and answered, 12:11:20
13 correctly? 12:08:51	13 argumentative, document speaks for 12:11:21
14 A. I think so. 12:08:52	14 itself. 12:11:23
15 Q. So, Mr. Hochman, your opinion is 12:08:52	15 Go ahead. 12:11:23
16 that Google could fingerprint users, not 12:08:57	16 A. Just a second because I have to 12:11:24
17 that it does fingerprint users, correct? 12:08:59	17 look through this section. 12:11:27
18 MR. MAO: Objection, 12:09:04	18 BY MR. ANSORGE: 12:11:30
19 argumentative, the document speaks for 12:09:04	19 Q. Please do. 12:11:30
20 itself. 12:09:06	20 A. So I'm just looking in this, and 12:12:12
21 A. I think there may be other 12:09:07	21 I don't see a statement in here that 12:12:14
22 places in the document where I talk more 12:09:09	22 asserts that Google is using 12:12:15
23 about that. I think there is 12:09:11	23 fingerprinting, but my inference is that, 12:12:17
24 circumstantial evidence that Google is 12:09:13	24 based on circumstances, that this data -- 12:12:21
25 engaged in fingerprinting. I think a 12:09:17	25 this fingerprinting data is being 12:12:28
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1 collected and saved, and that it is likely 12:12:32	1 answered. 12:15:17
2 to be used by -- could be used by Google 12:12:34	2 A. Well, in fact, I think I know 12:15:17
3 for fingerprinting. 12:12:36	3 that it has been -- private browsing 12:15:19
4 And then there's an additional 12:12:38	4 information has been reidentified. There 12:15:22
5 risk. I'm aware that Google does 12:12:40	5 are examples of it happening. I think -- 12:15:24
6 sometimes provide its data to law 12:12:41	6 I spoke with Dave Nelson and I think -- 12:15:26
7 enforcement, that there are thousands of 12:12:46	7 and I read his deposition. And I think 12:15:29
8 requests to Google, and that sometimes 12:12:48	8 you've heard him say that the FBI has gone 12:15:31
9 this data, including fingerprinting data, 12:12:49	9 and arrested people who said, How did you 12:15:34
10 can be provided to law enforcement, and 12:12:54	10 find me? I was in incognito mode, or I 12:15:37
11 that law enforcement can use that to 12:12:56	11 was in private mode. 12:15:41
12 identify users. 12:13:00	12 And so we know that that's 12:15:42
13 In this -- in current events, I 12:13:02	13 happened. There are instances where -- 12:15:46
14 think you've seen numerous news articles 12:13:06	14 where it actually has happened. 12:15:50
15 that talk about how people have become 12:13:08	15 BY MR. ANSORGE: 12:15:50
16 worried that this type of data could be 12:13:10	16 Q. And, Mr. Hochman, I'm just 12:15:53
17 used by -- I'll just call it "oppressive 12:13:14	17 asking about the opinions you're 12:15:56
18 government factions," to do things like 12:13:24	18 proffering in this case and the opinions 12:15:57
19 identify women who are seeking abortion 12:13:28	19 in your report, which is lengthy and we 12:15:59
20 care and use that information to persecute 12:13:33	20 have read. And I want to make clear that 12:16:03
21 them. So there's a great worry about 12:13:35	21 you do not opine in your report that 12:16:07
22 this. This is a -- in current events, is 12:13:37	22 Google uses fingerprinting techniques to 12:16:09
23 a big topic of interest. 12:13:39	23 build profiles of plaintiffs from the 12:16:13
24 Q. And just to clarify, 12:13:43	24 private browsing information at issue in 12:16:15
25 Mr. Hochman, in your opinion, Google could 12:13:51	25 this case; is that correct? 12:16:17
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1 use fingerprinting to identify individual 12:13:55	1 A. The way I put it is that I'm 12:16:20
2 class members from the data at issue in 12:14:02	2 being conservative, and that I don't want 12:16:22
3 this case, correct? 12:14:05	3 to assert something without having proof 12:16:25
4 A. I think I'd -- 12:14:09	4 of it. But I think there is 12:16:33
5 MR. MAO: Objection, 12:14:11	5 circumstantial evidence to suggest that 12:16:37
6 argumentative, vague and ambiguous, 12:14:12	6 Google very well may be fingerprinting 12:16:40
7 asked and answered, calls for 12:14:14	7 users as part of its profiling activities, 12:16:44
8 speculation. 12:14:17	8 not just security. 12:16:49
9 Go ahead. 12:14:18	9 And to that, I want to add a 12:16:52
10 A. I think in the report, I've 12:14:20	10 comment because I did mention security 12:16:54
11 demonstrated how the fingerprinting 12:14:22	11 before. I'm trying to be fair here, okay? 12:16:56
12 information can be used to join records 12:14:24	12 We talk about -- I've talked about -- 12:17:01
13 from different logs and to reidentify 12:14:26	13 we've been talking about fingerprinting, 12:17:04
14 private browsing activity. 12:14:31	14 and I've talked about fingerprinting as 12:17:06
15 In other words, to be clear, to 12:14:39	15 something that's potentially abusive. It 12:17:08
16 associate private activity with a -- a 12:14:41	16 also -- you know, has potentially proper 12:17:11
17 personal identity such as a GAIA ID. 12:14:44	17 uses, but it's a tool in that it needs to 12:17:15
18 That's G-A-I-A. 12:14:48	18 be used carefully, and it needs to be 12:17:18
19 BY MR. ANSORGE: 12:14:50	19 communicated to users clearly what's going 12:17:22
20 Q. And your opinion is that the 12:14:56	20 on so that they can understand. 12:17:26
21 private browsing information at issue in 12:14:57	21 So I just want to be balanced 12:17:29
22 this case could be reidentified through 12:15:01	22 and clear that fingerprinting is a tool. 12:17:30
23 fingerprinting techniques, correct? 12:15:07	23 It has good uses and bad uses. 12:17:32
24 MR. MAO: Objection, the 12:15:11	24 Q. So do you have any proof that 12:17:37
25 document speaks for itself, asked and 12:15:12	25 Google used the private browsing 12:17:42
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1 profile of users"? 13:24:35	1 maintains a complete cradle-to-grave 13:26:39
2 A. I think I've heard that before. 13:24:38	2 profile of users? 13:26:39
3 Q. And what's your understanding of 13:24:39	3 A. Yeah, in my report -- 13:26:39
4 that phrase? 13:24:41	4 (Reporter clarification.) 13:26:43
5 A. The way I would describe it is 13:24:45	5 MR. MAO: Objection, asked and 13:26:43
6 that, as applies to this, is that Google 13:24:46	6 answered. 13:26:46
7 is logging -- collecting, logging, 13:24:53	7 Go ahead. 13:26:46
8 whenever it can, all the activity of users 13:24:56	8 A. So in my report, I opine that 13:26:47
9 from when they first start, on and on and 13:25:00	9 Google tracking beacons, which are located 13:26:51
10 on. 13:25:04	10 on at least [REDACTED] of websites, by 13:26:56
11 Q. You do not use the phrase 13:25:08	11 some measure, consistently beam 13:27:00
12 "complete cradle-to-grave profile of 13:25:10	12 information back to Google, including a 13:27:06
13 users" in your report, correct? 13:25:14	13 indication of the content that the user is 13:27:12
14 A. I'll take your word for it. 13:25:15	14 viewing, specifically the URL, among other 13:27:14
15 Q. And you do not opine that Google 13:25:16	15 information, that this is consistently 13:27:18
16 maintains a complete cradle-to-grave 13:25:20	16 done by the tracking beacons I've 13:27:20
17 profile of users, correct? 13:25:25	17 mentioned, that it's done the same for all 13:27:24
18 A. By the way, when you said 13:25:26	18 the users, whether they're in incognito 13:27:26
19 "report," I'm thinking of the opening 13:25:27	19 mode or regular mode. And I am saying -- 13:27:32
20 report. 13:25:29	20 when I say "the users," I mean the users 13:27:35
21 Q. In either report. 13:25:29	21 in class 1 or class 2. 13:27:37
22 A. In either report. I'll take 13:25:31	22 BY MR. ANSORGE: 13:27:43
23 your word for it. Okay. 13:25:32	23 Q. And that wasn't my question, 13:27:44
24 And then the next question was? 13:25:33	24 Mr. Hochman. 13:27:46
25 Q. You do not opine that Google 13:25:35	25 A. I think it was. 13:27:50
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1 maintains a complete cradle-to-grave 13:25:36	1 Q. My -- do you opine anywhere in 13:27:51
2 profile of users, correct? 13:25:39	2 your report that the information from 13:27:55
3 A. Well, I believe that Google is 13:25:41	3 these individual tracking beacons is 13:27:58
4 engaged in complete cradle-to-grave 13:25:44	4 correlated into a single cradle-to-grave 13:28:00
5 profiling of users. I haven't used that 13:25:49	5 profile of class 1 or class 2 members? 13:28:04
6 word formulation, but I believe that 13:25:50	6 MR. MAO: Objection, asked and 13:28:07
7 that's true. 13:25:51	7 answered. 13:28:08
8 Q. What is your understanding of 13:25:52	8 A. All right. So the data comes in 13:28:13
9 the distinction between "profile" and 13:25:54	9 and is stored by Google, and it is stored 13:28:15
10 "profiling"? 13:25:58	10 with a sufficient amount of identifiers, 13:28:18
11 MR. MAO: Objection, 13:25:59	11 cookie identifiers, fingerprinting data 13:28:23
12 argumentative. You're harassing the 13:26:00	12 that it can be linked up. 13:28:29
13 witness. 13:26:02	13 And I've shown even, using the 13:28:33
14 MR. ANSORGE: It's not 13:26:02	14 data available through the special master 13:28:37
15 argumentative. 13:26:03	15 process, how these records can be linked 13:28:39
16 MR. MAO: May I have the 13:26:05	16 up. And the simple fact that Google might 13:28:42
17 question read back? Maybe I 13:26:06	17 store the data fragments separately is not 13:28:46
18 misunderstood the question. I 13:26:08	18 really consequential because it's not at 13:28:50
19 apologize if I did, Joey. The 13:26:10	19 all hard to link them up. 13:28:54
20 question back, please. 13:26:14	20 BY MR. ANSORGE: 13:28:54
21 (Whereupon, the question is read 13:26:14	21 Q. Your opinion is that the data 13:28:58
22 back by the reporter.) 13:26:14	22 could be linked up, not that it is linked 13:29:00
23 A. I don't agree with you. 13:26:36	23 up; is that correct? 13:29:03
24 BY MR. ANSORGE: 13:26:36	24 MR. MAO: Objection, misstates 13:29:05
25 Q. Where do you opine that Google 13:26:37	25 his testimony. 13:29:06
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1 A. I think that if you were to look 13:29:07	1 sort of creating a -- a question that's 13:31:24
2 at how database systems work, data can be 13:29:10	2 without context so I'm not sure -- 13:31:28
3 stored -- it can be stored in a single 13:29:16	3 Q. Yeah. 13:31:31
4 data structure or it can be separated out 13:29:18	4 A. -- where I'm going to look -- I 13:31:32
5 into pieces, and that doesn't really 13:29:20	5 can search the whole report, but that will 13:31:34
6 matter because Google has the 13:29:23	6 be slow. Maybe you want to draw my 13:31:36
7 cradle-to-grave profile of the user. The 13:29:25	7 attention to something. It will be 13:31:38
8 fact that they might store it in pieces, 13:29:29	8 faster. 13:31:40
9 it would be like if your doctor had a file 13:29:31	9 Q. The problem here, Mr. Hochman, 13:31:40
10 about you and -- but he had it in three 13:29:34	10 is that we're trying to ask you questions 13:31:42
11 different file folders and maybe they were 13:29:38	11 about the limits of your opinions. We 13:31:45
12 in two different file cabinets, but he had 13:29:41	12 have reviewed your report. It is my 13:31:48
13 access to all of them. He's got your 13:29:45	13 understanding that you do not opine that 13:31:51
14 medical history. It doesn't -- it's not 13:29:46	14 Google maintains a complete 13:31:54
15 required that they all be put together in 13:29:47	15 cradle-to-grave profile of users. It is 13:31:56
16 the same manilla folder. 13:29:49	16 my understanding that you do not opine 13:31:58
17 BY MR. ANSORGE: 13:29:49	17 that Google engages in fingerprinting 13:32:00
18 Q. Mr. Hochman, do you opine 13:29:58	18 techniques to build a profile of 13:32:01
19 anywhere that Google stores all of the 13:29:59	19 plaintiffs. It is my understanding that 13:32:04
20 data it receives? 13:30:01	20 you do not opine on domains sharing data 13:32:06
21 A. According to our test, it looks 13:30:06	21 with each other. And what we're 13:32:12
22 like the data that's being transmitted 13:30:08	22 attempting to do is clarify that with you. 13:32:15
23 back to Google by the tracking beacons is 13:30:11	23 So with respect -- if you do 13:32:18
24 being received and stored. We haven't 13:30:14	24 opine on that anywhere, we'd expect you to 13:32:21
25 found yet, and Google hasn't presented 13:30:17	25 at this point inform us and not vice 13:32:23
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1 evidence or information, showing that the 13:30:20	1 versa. 13:32:27
2 data is not being stored and saved at 13:30:24	2 A. Okay. 13:32:28
3 least for some length of time. 13:30:29	3 MR. MAO: Objection, it's just a 13:32:29
4 Q. Mr. Hochman, you do not opine 13:30:38	4 mischaracterization, but I don't even 13:32:32
5 anywhere your report that all the domains 13:30:40	5 think there's a question pending so... 13:32:35
6 that belong to Google all share data with 13:30:43	6 A. That's right, there's not a 13:32:37
7 each other; is that correct? 13:30:45	7 question there. So I'll wait for a 13:32:38
8 MR. MAO: Objection, misstates 13:30:48	8 question. 13:32:42
9 his testimony, the document speaks for 13:30:49	9 (Reporter clarification.) 13:32:43
10 itself. 13:30:51	10 MR. MAO: And we disagree, 13:32:43
11 Go ahead. 13:30:51	11 Mr. Ansorge. 13:32:50
12 A. I'm not sure I understood the 13:30:53	12 BY MR. ANSORGE: 13:32:50
13 question because I think it might have 13:30:54	13 Q. Mr. -- the question was, 13:32:52
14 like a double negative in it. So maybe 13:30:55	14 Mr. Hochman, do you opine anywhere in your 13:32:54
15 can you just say it again so I can be sure 13:30:57	15 report that all the domains that belong to 13:32:56
16 I understand it? 13:31:00	16 Google all share data with each other? 13:32:59
17 BY MR. ANSORGE: 13:31:00	17 A. I mean, I think I'd have to ask 13:33:12
18 Q. Do you opine anywhere in your 13:31:01	18 you to enumerate which domains you're 13:33:14
19 report that all the domains that belong to 13:31:03	19 referring to because -- and are you 13:33:18
20 Google all share data with each other? 13:31:05	20 referring to Google or Alphabet? It 13:33:20
21 A. I may have said something like 13:31:08	21 starts to get complicated. I mean, Google 13:33:22
22 that. I just -- I don't recall if you -- 13:31:14	22 owns a bunch of subsidiaries. They have, 13:33:25
23 if you think that I've said that, you 13:31:16	23 you know, all sorts of companies and 13:33:27
24 could show me where. I don't know that 13:31:19	24 things. I don't think you're referring to 13:33:30
25 I've said the opposite of it, and you're 13:31:21	25 those, so I think we need to narrow it 13:33:32
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<p>1 consider it. 19:34:07</p> <p>2 MR. ANSORGE: Well, can you let 19:34:10</p> <p>3 us know later today whether you'll 19:34:12</p> <p>4 oblige us or not, or should we expect 19:34:14</p> <p>5 to be provided with a list of all the 19:34:17</p> <p>6 sources that Mr. Hochman considered 19:34:20</p> <p>7 and relied upon in forming his 19:34:22</p> <p>8 conclusions in this case? 19:34:25</p> <p>9 MR. MAO: We've heard your 19:34:26</p> <p>10 request. We believe we complied with 19:34:27</p> <p>11 the statute, but we will consider it. 19:34:29</p> <p>12 I'd like -- I prefer less arguments 19:34:31</p> <p>13 rather than more. 19:34:33</p> <p>14 BY MR. ANSORGE: 19:34:37</p> <p>15 Q. Well, Mr. Hochman, two minutes 19:34:38</p> <p>16 remaining. 19:34:43</p> <p>17 (Reporter clarification.) 19:34:43</p> <p>18 BY MR. ANSORGE: 19:34:43</p> <p>19 Q. Okay. How is it now? 19:34:56</p> <p>20 A. The Internet gods have given you 19:34:59</p> <p>21 a reprieve. Go ahead. 19:35:01</p> <p>22 Q. Yes. Well, I wanted to thank 19:35:03</p> <p>23 you for your time today. I look forward 19:35:06</p> <p>24 to spending more time with you tomorrow. 19:35:08</p> <p>25 I appreciate your patience. 19:35:10</p> <p style="text-align: right;">Page 358</p>	<p>1 _____</p> <p>JONATHAN E. HOCHMAN</p> <p>2</p> <p>3</p> <p>4 _____</p> <p>Subscribed and sworn to</p> <p>before me this _____</p> <p>5 day of _____ 2022.</p> <p>6 _____</p> <p>Notary Public</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p style="text-align: right;">Page 360</p>
<p>1 MR. ANSORGE: For the documents 19:35:12</p> <p>2 that we have provided to -- which 19:35:13</p> <p>3 we've also produced, we can tomorrow 19:35:17</p> <p>4 or tonight provide you with the 19:35:20</p> <p>5 produced documents. I don't know if 19:35:23</p> <p>6 you'll want them tomorrow or not. 19:35:25</p> <p>7 But with that, I look forward to 19:35:27</p> <p>8 seeing you tomorrow at 10:00 a.m. 19:35:29</p> <p>9 THE WITNESS: 10:00 a.m. 19:35:33</p> <p>10 MR. MAO: Thank you. Thank you 19:35:35</p> <p>11 everyone. 19:35:36</p> <p>12 THE VIDEOGRAPHER: This 19:35:37</p> <p>13 concludes -- this concludes volume 1 19:35:37</p> <p>14 of the videotaped deposition of 19:35:46</p> <p>15 Jonathan Hochman. We are off the 19:35:48</p> <p>16 record at 7:36 p.m. 19:35:49</p> <p>17 MR. MAO: I would like a rough. 19:36:05</p> <p>18 THE COURT REPORTER: Do you want 19:36:17</p> <p>19 an expedite transcript? 19:36:19</p> <p>20 MR. MAO: Yes, please. 19:36:22</p> <p>21 (Time noted: 7:36 p.m.)</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p style="text-align: right;">Page 359</p>	<p>1 CERTIFICATION</p> <p>2</p> <p>3 I, BELLE VIVIENNE, a Nationally</p> <p>4 Certified Realtime Reporter, do hereby</p> <p>5 certify:</p> <p>6 That the witness whose testimony as</p> <p>7 herein set forth, was duly sworn by me;</p> <p>8 and that the within transcript is a true</p> <p>9 record of the testimony given by said</p> <p>10 witness.</p> <p>11 I further certify that I am not</p> <p>12 related to any of the parties to this</p> <p>13 action by blood or marriage, and that I am</p> <p>14 in no way interested in the outcome of</p> <p>15 this matter.</p> <p>16 IN WITNESS WHEREOF, I have hereunto</p> <p>17 set my hand this 25th day of July 2022.</p> <p>18</p> <p>19 <i>Belle Vivienne</i></p> <p>20</p> <p>21 BELLE VIVIENNE, CKR, CCR, RPR</p> <p>22</p> <p>23 * * *</p> <p>24</p> <p>25</p> <p style="text-align: right;">Page 361</p>